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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/917,480	08/26/1997	SEAN R. WAKAYAMA	R-8767	4794

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ALEXANDRIA, VA 22314-2866

EXAMINER

DINH, TIEN QUANG

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 04/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/917,480

Applicant(s)

WAKAYAMA

Examiner

T. Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 16, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims, 16, and 18, "the bending moment" lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-15, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashkenas in view of Whitener.

Ashkenas discloses a blended delta shape wing aircraft that is tail-less with independently control surfaces located at stall-critical spanwise locations but is silent on the control surface configuration system in which the control surfaces are selectively reconfigurable to a plurality of predetermined positions as required to optimize the spanwise force distribution across the wing for each of a plurality of different flight

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configurations/conditions including a low speed flight condition in which a first selected ones of the control surfaces are positioned to increase a local coefficient of lift and the other control surfaces are positioned to control pitch trim. However, Whitener clearly shows that control surface configuration system in which the control surfaces are positioned at predetermined positions for certain flight configurations are well known in the art. The control surfaces are independently controllable to increase lift and controlling pitch trim if desired.

It would have been obvious to one skilled in the art at the time the invention was made to have used control surface configuration system in Ashkenas' system as taught by Whitener to increase the maneuverability of the aircraft and to prevent detrimental effects on the aircraft. Please note that at a certain predetermined positions, it is inherent that spanwise force distribution across the wing is optimized since this would obviously optimize the maneuverability of the system. The control surfaces of Askenas control the shapes of the wing and the moving air on the surface of the control surfaces to generate "forces" to control flight and reduces hazardous conditions that is detrimental to the aircraft. This could include maximizing the lift to drag ratio, reduce a moment on the wing, etc. Please note that the methods as claimed is met by the apparatus of Ashkenas as modified by Whitener.

Claims 6, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashkenas as modified by Whitener as applied to claims 1 and 11 above, and further in view of Lewis.

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Ashkenas as modified by Whitener discloses all claimed parts of the invention (including pitch maneuver) but is silent on the use of the control flaps on reducing bending moment with respect to a bend axis of a wing. However, Lewis discloses that the use of control surfaces to reduce bending moments on the wing is well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have allowed/given the system of Ashkenas the ability to reduce bending moments as taught by Lewis to prevent damages to the aircraft. Re claim 18, please note that during a pitch maneuver of Ashkenas' aircraft, it is inherent that the control surfaces are used to shift the spanwise distribution towards the longitudinal axis without reducing the lift force since the loss of lift forces would make the aircraft "fall" below where it is needed to be. Thus, it is desired that the control surfaces prevent the loss of lift to the aircraft so it could fly.

Response to Arguments

In response to applicant's argument on page 3 concerning the "replacement of the control system taught by the '045 patent with that taught by '661 patent, the Examiner respectfully disagree. The Examiner in no way intended to suggest that the control system of Whitener be used in the Ashkenas' reference. It is clear from the teaching of Whitener (see column 10, last paragraph to column 11, lines 29) that Ashkenas' aircraft control surfaces have predetermined positions so as to perform certain flight maneuvers/conditions with optimized spanwise force distribution across the wing.

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Thus, it is inherent that the spanwise force distribution across the wing is optimized since this would obviously optimize the maneuverability of the aircraft. In other words, if the aircraft wants to increase its lift by a desired amount, the control surfaces would be altered in a predetermined position (for a position that correspond to the desired lift wanted), which will lead to an optimized spanwise force distribution across the wing for this desired flight profile (desired amount of lift). Other flight conditions such as low speed flight condition with increase local coefficient of lift and pitch trim are controlled by the control surfaces which would lead to an optimized spanwise force distribution across the wing so that the low speed flight condition can be achieved.

The Examiner once again would like to point out that the Whitener is there to teach that control surfaces in predetermined position optimizes the spanwise force distribution across the wing. This is evidence to show that Askenas' control surfaces do have predetermined positions which optimize the spanwise force distribution across the wing.

As for the argument on the lack of antecedent basis on "the bending moment", please note that "the bending moment" has not been given the proper antecedent basis in claim 1 or in claims 6, 16, 18. The problem could be solved by merely changing "the bending moment" to -a bending moment-.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Dinh whose telephone number is 703-308-2798. The examiner can normally be reached on Monday Through Friday 8-6, alternate Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-306-4195 for regular communications and 703-306-4195 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4177.

Charles T. Jordan
CHARLES T. JORDAN
SULLY P. TESTA
TELEPHONE 3600

T. Dinh
Examiner
Art Unit 3644

TD
March 26, 2002